

Remarks:

Reconsideration of the application is respectfully requested.

Claims 1 - 65 are presently pending in the application.

Claims 1 - 24 were previously indicated as allowable, subject to certain informalities. New claims 25 - 65 have been added.

On page 2 of the of the above-identified Office Action, the Examiner objected to the Abstract of the Disclosure. An amended Abstract has been submitted herewith.

Further, claims 12, 13, 15 and 17 were objected to for certain informalities. Applicants' have made the amendments suggested in the Office Action. Moreover, in claim 12, step I), two lines have been switched in order to adapt step I) to the corresponding substep d) in claim 13. In claim 17, step 1), the variables for updating p_state have been amended in order to bring the sub step into conformity with Fig. 6.

Fig. 5 has been amended. Attached is one revised formal drawing sheet, including a revised Fig. 5, in which "bit \leftarrow 0" has been added at the bottom of this figure. Original disclosure for this amendment may be found in original claim 15. A red-lined sheet showing this addition to Fig. 5 is additionally being provided.

Finally, Applicants appreciatively acknowledge the Examiner's statement that claims 1 - 24 are allowable.

Although, the Office Action states that prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, Applicants are currently submitting new claims 25 - 65, which correspond to claims currently pending in the international preliminary Examination procedure of the parallel international patent application PCT/EP 03/04654. MPEP § 714.14 states that such amendments are treated in a manner similar to amendments after final rejection and cites to MPEP §§ 714.12 and 714.13. As such, Applicants submit these new claims herein and respectfully request that they be entered and considered. Generally stated, the independent claims among these new claims are directed to the same kind of invention as the original, allowed independent claims.

Applicants believe that new claims 25 - 65 do not represent subject matter that extends beyond the content of the original disclosure. For example, new claim 25, like original claim 1, is a method for arithmetical encoding and is based on the following matter from the description of the instant application:

- the fact that the symbol to be encoded has a binary state, page 2, line 28, page 3, lines 25 and 28 - 29, page 18, lines 33 - 34 and page 17, line 37;
- the fact that the arithmetic encoding takes place on the basis of a probability, page 17, lines 26 - 31, in connection with page 18, line 22;
- the fact that the probability represents a probability estimation for the symbol to be encoded, page 17, line 26 - page 18, line 6 and line 22;
- the fact that the probability is represented by a probability index which addresses a probability state from a plurality of representative probability states, page 19, lines 2 - 4, page 18, lines 22 - 23, page 9, lines 18 - 21;
- the fact that the encoding of the encoding symbol takes place by means of mapping the current interval width to a quantization index from a plurality of representative quantization indices, page 19, lines 15 - 16 and 20 - 22;
- the fact that the encoding of the symbol to be encoded takes place by means of carrying out the interval separation, page 18, line 4, page 3, lines 30 - 32, page 18, line 3, page 9, and page 2, lines 25 - 26;

- the fact that the interval separation takes place by accessing an interval division table, page 9, lines 10 - 12 and 15 - 21;
- the fact that the access takes place using the quantization index and the probability index, page 9, lines 19 - 21;
- the fact that a partial interval width value is obtained by the access, page 9, line 11.

The passages in the disclosure cited above, correspondingly apply to new independent claims 33, 58, 59 and new claims 60 - 65.

The new dependent claims are based on the original disclosure of the present application as follows:

Claim 26: Page 3, line 33, in connection with page 18, line 3 and Figs. 1 and 2. From the mentioned passages in the disclosure, it can readily be seen that the updating of the interval width R (page 3, line 33) takes place using the interval width value, i.e. by R_{MPS} which, in turn, corresponds to $R - R_{LPS}$. The result is the new, updated interval width R .

Claim 27: Page 9, line 11.

Claim 28: Page 3, lines 32/33, in connection with page 18, line 3, and Figs. 1 and 2. From these passages, it can readily be seen that the updating of the interval width R is performed depending on the binary state of the symbol to be encoded, i.e. "bit" (ct, "if... then").

Claim 29: Original claim 10, as well as Fig. 2 in connection with page 18, lines 30 to 35, and page 3, lines 34/35, in connection with page 18, line 3, and page 17, lines 32/33, in connection with page 18, lines 28 to 30.

Claim 30: Original claim 12, i.e. particularly page 28, lines 29 and 33 in connection with page 19, lines 4 to 8.

Claim 31: Original claim 12, particularly page 28, line 27 as well as 29 and 31.

Claim 32 Page 3, lines 21/22, in connection with page 18, line 3, as well as original claim 12, page 28, line 30, in connection with line 27.

Claim 34: Page 20, lines 16 to 19, in connection with the

passages mentioned with respect to claim 26.

Claim 35: Page 20, lines 16 to 19, in connection with the

passages mentioned with respect to claim 26.

Claim 36: Page 20, lines 12 to 14, particularly page 29, lines
21 and 24, as well as line 18.

Claim 37: Original claim 13, particularly page 29, line 18,
lines 21/22 and 28.

Claim 38: Page 21, lines 12/13.

Claim 39: Page 20, lines 16 to 19, in connection with the
passages of the disclosure mentioned with respect to
claim 29, and original claim 13, particularly page
29, lines 21, 26 and 29.

Claim 40: The passages of the disclosure given with respect to
claim 30, as well as original claim 13, particularly
page 29, lines 21 and 25.

Claim 41: Page 19, lines 28 to 32, and page 18, lines 10/11.

Claim 42: Original claim 2.

Claim 43: Original claim 3.

Claim 44: Original claim 5.

Claim 45: Original claim 8.

Claim 46: Original claim 9.

Claim 47: Original claim 11.

Claim 48: Original claim 12.

Claim 49: Original claim 13.

Claim 50: Original claim 14.

Claim 51: Original claim 15.

Claim 53: Original claim 16.

Claim 54: Original claim 17.

Claim 55: Original claim 18.

Claim 56: Original claim 19.

Claim 57: Original claim 20.

See also Figs. 1 - 3, for support.

In view of the foregoing, entry of claims 25 - 65 and reconsideration and allowance of claims 1 - 65 are solicited. The fee for adding the new claims 25 - 65 in the amount of \$3,650.00 is being provided herewith.

In the event the Examiner should find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Additionally, please consider the present as a petition for a one month extension of time, and please provide a one month extension of time, to and including, December 14, 2004, to respond to the present Office Action. The extension fee for response within a period of one (1) month pursuant to Section 1.136(a) in the amount of \$120.00 in accordance with Section 1.17 is enclosed herewith.

Please provide any additional extensions of time that may be necessary and charge any other fees that might be due with

respect to Sections 1.16 and 1.17 to the Deposit Account of
Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,



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For Applicants

KPS:cgm

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Amendments to the Drawings:

Attached is one revised formal drawing sheet, including a revised Fig. 5, in which "bit \leftarrow 0" has been added at the bottom of this figure.

Attachment: Replacement Sheet
 Annotated Sheet Showing Changes



Fig. 5

Encoder:

1. Calculating the new partial interval:

```
L ← L << 1  
if (bit = 1) then  
    L ← L + R
```

2. Outputting a bit and renormalizing using doubled determination threshold values (without doubling R and L)

Decoder:

1. Reading out a bit and updating V
2. Determination of bit depending on the position of the partial interval:

```
if (V ≥ R) then  
    bit ← 1  
    V ← V - R  
else bit ← 0
```

Fig. 5

```
1. preState = min(max(1, ((m * SliceQP) >> 4) + n), 126)  
2. if (preState ≤ 63) then  
    p_state = 63 - preState  
    valMPS = 0  
else  
    p_state = preState - 64  
    valMPS = 1
```

Fig. 6